

Exhibit C

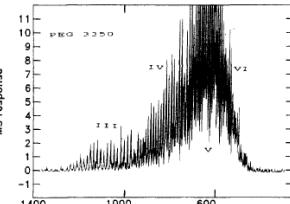
Invalidity Chart for the '726 Patent
(Wong and the '056 Patent)

INVALIDITY CLAIM CHART C
U.S. PATENT NO. 5,686,726 (Wong and '056 Patent)

The '726 patent is invalid as anticipated under 35 U.S.C. § 102(b) by and/or obvious under 35 U.S.C. § 103(a) over the Wong article, either alone or in view of the '056 patent. To the extent it is found that any reference does not anticipate the asserted claims, each reference renders them obvious under 35 U.S.C. § 103(a), either alone or in combination with the other prior art identified in the cover pleading or herein. Moreover, to the extent it is found that any reference does not expressly disclose certain limitations in the asserted claims, such limitations may be inherent.

5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
Claim 1			
A composition of matter comprising			
a population of multiply charged polyatomic ions derived from a distinct polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions. See Wong at 548.		Each element of claim 1 of the '726 patent is found in or rendered obvious by Wong.
all molecules of said distinct polyatomic parent molecular species having substantially the same molecular weight and chemical identity,	Figures 7-9 show the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. Each species of PEG comprises molecules that have the same chemical identity. See Wong at 548. Wong also teaches that future experiments will use "relatively pure species of known molecular weight." Wong at 550.		Claim 1 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 1 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
the number of charges on each ion in said population of multiply charged polyatomic ions defining that ion's charge state number, said population of multiply charged polyatomic ions comprising a plurality of sub-populations of ions, all the ions of each of said sub-populations having the same charge state number, said same charge state number differing from the charge state numbers of the ions in the other sub-	Figures 7-9 show the number of charges defining the ion's charge state number and the PEG ions comprising a plurality of subpopulations where the ions in each subpopulations have the same charge state number where the charge state numbers differ from ions in other subpopulations (see, e.g., Fig. 7 below, showing the mass spectra for oligomers with respectively 3, 4, 5, and 6 Na ⁺ ions).		

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
populations of said plurality of subpopulations,	 <p>Figure 7. Mass spectrum for PEG 3350 showing bands III, IV, V, and VI for oligomers with respectively 3, 4, 5, and 6 Na^+.</p>		
said plurality of sub-populations comprising one sub-population for each value of charge state number beginning with a smallest value not less than three and extending to a largest value not less than five.	Wong discloses that the ions generated may have at least three charges and may have “up to at least twenty-three” charges. Wong at 548, Abstract, Figure 6 and 11.		
Claim 3, depends from claim 1			
The composition of matter of claim 1 in which said smallest value of charge state number is not less than seven and said largest value is not less than ten.	Wong discloses that the ions generated may have at least three charges and may have “up to at least twenty-three” charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 3 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 3 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 5, depends from claim 1			
The composition of matter of claim 1 in which said polyatomic parent molecular species is selected from a		The '056 patent teaches “the electrospray technique produces ions from solutes of	One of ordinary skill in the art would understand the disclosure of the '056 patent to

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class of compounds known as biopolymers.		very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	teach the application of electrospray ionization methods to "biopolymers" to produce the compositions of claim 5 of the '726 patent.
Claim 6, depends from claim 1			
The composition of matter of claim 1 in which said distinct polyatomic parent molecular species is not a synthetic polymers [sic] such as a poly (ethylene glycol), having less than four different constituent elemental species.	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 6 of the '726 patent including excluding compounds like polyethylene glycols.
Claim 8, depends from claim 1			
The composition of matter as claimed in claim 1 in which said distinct polyatomic parent molecular species has a molecular weight not less than 5000.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the '056 patent to disclose the application of electrospray methods to a "distinct polyatomic parent molecular species [that] has a molecular weight not less than about 5000" to produce the composition of claim 8 of the '726 patent.
Claim 9			
A composition of matter comprising one or more populations of multiply charged polyatomic ions derived from a sample comprising at least one polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions. See Wong at 548.		Each element of claim 9 of the '726 patent is found in or rendered obvious by Wong either alone or in view of the

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the number of charges on each ion defining said ion's charge state number, said population of multiply charged polyatomic ions formed from said at least one polyatomic parent molecular species comprising a plurality of sub-populations, the ions of each sub-population having the same charge state number, said charge state number differing by one from the next largest and the next smallest values of charge state number found in the other sub-populations of said plurality,	Figures 7-9 show the number of charges defining the ion's charge state number and the PEG ions comprising a plurality of subpopulations where the ions in each subpopulations have the same charge state number where the charge state numbers differ by one from ions in the neighboring subpopulations (see, e.g., Fig. 7 below, showing the mass spectra for oligomers with respectively 3, 4, 5, and 6 Na ⁺ ions).		'056 patent. Claim 9 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 9 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382. Furthermore, the added electrospray ionization process steps were known in the electrospray mass spectrometry art as exemplified by the disclosure of the '056 patent.
the ions of each of said sub-populations having a value of said charge state number that is not less than five, said composition of matter being formed by:	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		
dispersing a solution of said sample containing said at least one polyatomic parent molecular species into a bath gas as charged droplets, said dispersing taking place in the presence of an electric field; and allowing the solvent of said solution to evaporate from said charged droplets until at least some molecules of said polyatomic parent molecular species become dispersed in said bath gas as said multiply charged	Wong discloses an electrospray ionization mass spectrometry procedure that anticipates these "dispersing" and "evaporating" method elements. See Wong at Fig. 1 and 546.	The '056 patent teaches the electrospray ionization technique, describing how the sample to be ionized is dissolved in a solvent, which is displaced through the capillary of the apparatus into a "region of high pressure and electrical field" wherein the liquid emerging becomes "charged" and the solvent begins to evaporate into charged	

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
polyatomic ions.		droplets that are directed into the mass spectrometer analyzer. See '056 patent at 2:53- 3:62.	
Claim 10, depends from claim 9			
The composition of matter of claim 9 in which the charge state number of the ions in each of said sub-populations of said plurality of sub-populations is at least seven.	Wong discloses that the ions generated may have at least three charges and may have “up to at least twenty-three” charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 10 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 10 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 11, depends from claim 9			
The composition of matter of claim 9 in which all molecules of said at least one of said polyatomic parent molecular species have substantially the same molecular weight.	Figures 7-9 show the population of PEG ions comprises a plurality of subpopulations, the ions in each subpopulation having the same charge state number. Each species of PEG comprises molecules that have the same molecular weight. See Wong at 548. Wong teaches that future experiments will use “relatively pure species of known molecular weight.” Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 11 of the '726 patent including forming compositions from compounds having substantially the same molecular weight.
Claim 16			
A composition of matter comprising			

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one or more distinct populations of multiply charged polyatomic ions generated from a sample comprising one or more distinct polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions that are generated from a sample of PEG. See Wong at 548.		Each element of claim 16 of the '726 patent is found in or rendered obvious by Wong.
the number of charges on each ion defining the ion's charge state number, each of said populations of polyatomic ions comprising a plurality of sub-populations, each of said plurality of sub-populations being comprised of ions formed from one of said distinct polyatomic parent molecular species and having the same charge state number,	Figures 7-9 show that the number of charges on each ion defines the ion's charge state number and show that the population of PEG ions comprises a plurality of subpopulations, the ions in each subpopulation having the same charge state number. See Wong at 548.		Claim 16 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 16 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
there being at least one of said populations of multiply charged polyatomic ions that comprises one of said sub-populations for each value of charge state number beginning with a smallest value of three and extending to a largest value not less than five.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		
Claim 18, depends from claim 16			
The composition of matter of claim 16 in which said smallest value of charge state number is not less than seven and said largest value of charge state number is not less than ten.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 18 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 18 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> ,

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
			541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 19, depends from claim 16			
The composition of matter of claim 16 in which all molecules of each of said distinct polyatomic parent molecular species have substantially the same molecular weight.	Figures 7-9 show the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. Each species of PEG comprises molecules that have the same molecular weight. See Wong at 548. Wong teaches that future experiments will use "relatively pure species of known molecular weight." Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 19 of the '726 patent including forming compositions from compounds having substantially the same molecular weight.
Claim 20, depends from claim 16			
The composition of matter in claim 16 in which at least one of said distinct polyatomic parent molecular species is selected from a class of compounds known as biopolymers.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application of electrospray ionization methods to "biopolymers" to produce the compositions of claim 20 of the '726 patent.
Claim 21, depends from claim 16			
The composition of matter in claim 16 in which at least one of said distinct polyatomic parent molecular species is selected from the group comprising proteins, peptides, polypeptides, carbohydrates, oligonucleotides and glycoproteins.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application of electrospray ionization methods to make the compositions from "proteins,

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		molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	peptides, polypeptides, carbohydrates, oligonucleotides and glycoproteins" according to claim 21 of the '726 patent.
Claim 22, depends from claim 16			
The composition of matter of claim 16 in which at least one of said distinct polyatomic parent molecular species is not a synthetic polymer, such as a poly (ethylene glycol), having less than four different constituent elemental species.	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 22 of the '726 patent including excluding compounds like polyethylene glycols.
Claim 23, depends from claim 16			
The composition of matter of claim 16 in which at least one of said distinct polyatomic parent molecular species has a molecular weight not less than about 5000.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand disclosure of the '056 patent to disclose the application of electrospray methods to a "distinct polyatomic parent molecular species [that] has a molecular weight not less than about 5000" to produce the compositions of claim 23 of the '726 patent.
Claim 24			
A composition of matter comprising one or more distinct populations of multiply charged polyatomic ions generated from a sample comprising one or more distinct polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions that are generated from a sample of PEG. See Wong at 548.		Each element of claim 24 of the '726 patent is found in or rendered obvious by Wong. Claim 24 of the '726 patent

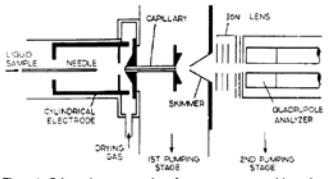
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the number of charges on each ion defining its charge state number, each of said populations of multiply charged polyatomic ions comprising ions formed from one of said distinct polyatomic molecular species and being comprised of a plurality of sub-populations, the ions of each of said sub-populations having the same charge state number,	Figures 7-9 show that the number of charges on each ion defines the ion's charge state number and show that the population of PEG ions that were formed from the PEG sample comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. See Wong at 548.		differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a <i>prima facie</i> case of obviousness exists and the range of charges in claim 24 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
there being one of said sub-populations for each value of said charge state number beginning with a smallest value not less than three and extending to a largest value not less than five.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		
Claim 26, depends from claim 24			
The composition of matter of claim 24 in which at least one of said distinct polyatomic parent molecular species is selected from a class of compounds known as biopolymers.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application of electrospray ionization methods to "biopolymers" to produce the compositions of claim 26 of the '726 patent.
Claim 27, depends from claim 24			
The composition of matter of claim 24 in which at least one of said distinct polyatomic parent molecular species is selected from the group comprising proteins, peptides polypeptides, carbohydrates, oligonucleotides and glycoproteins.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application of electrospray ionization methods to make the compositions from "proteins,

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			peptides polypeptides, carbohydrates, oligonucleotides and glycoproteins" according to claim 27 of the '726 patent.
Claim 28, depends from claim 24			
The composition of matter of claim 24 in which at least one of said distinct polyatomic parent molecular species is not selected from the group comprising synthetic polymers having less than four different constituent elemental species, said group comprising poly (ethylene glycol)s.	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 28 of the '726 patent including excluding compounds like polyethylene glycols
Claim 29, depends from claim 24			
The composition of matter of claim 24 in which at least one of said distinct polyatomic parent molecular species has a molecular weight not less than 5000.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the '056 patent to disclose the application of electrospray methods to a "distinct polyatomic parent molecular species [that] has a molecular weight not less than about 5000" to produce the composition of claim 29 of the '726 patent.
Claim 31			
A composition of matter comprising one or more distinct populations of multiply charged polyatomic ions generated from a sample comprising one or more distinct polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions that are generated from a sample of PEG. See Wong at 548.		Each element of claim 31 of the '726 patent is found in or rendered obvious by Wong either alone or in view of the '056 patent.

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<p>the number of charges on each ion defining the ion's charge state number, each of said populations of multiply charged polyatomic ions comprising ions formed from one of said distinct polyatomic parent molecular species in said sampler [sic] at least one of said populations of multiply charged polyatomic ions being comprised of a plurality of sub-populations,</p>	<p>Figures 7-9 show that the number of charges on each ion defines the ion's charge state number and show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. See Wong at 548.</p>		<p>Claim 31 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 31 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i>, 541 F.2d at 267; <i>In re Peterson</i>, 65 U.S.P.Q.2d at 1382.</p>
<p>the ions of each of said sub-populations having the same value of charge state number, that value being different from the values of charge state number in all the other sub-populations of ions in said plurality of sub-populations, the smallest value of charge state number of the ions in said plurality of sub-populations being not less than three,</p>	<p>Figures 7-9 show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number, which differs from the charge state numbers of the other subpopulations. See Wong at 548. Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.</p>		<p>Furthermore, the added electrospray ionization process steps were known in the electrospray mass spectrometry art as exemplified by the disclosure of the '056 patent.</p>
<p>said composition of matter being formed by: dispersing a solution containing said one or more distinct polyatomic parent molecular species into a bath gas as charged droplets, said dispersing taking place in the presence of an electric field. allowing the solvent of said solution to evaporate from said charged droplets until at least some molecules of said distinct polyatomic parent molecular species become dispersed in said bath gas as said multiply charged ions.</p>	<p>Wong discloses an electrospray ionization mass spectrometry procedure that anticipates these "dispersing" and "evaporating" procedural elements of performing the electrospray ionization. See Wong at Fig. 1 and 546.</p>  <p>Figure 1. Schematic representation of mass spectrometer with an electrospray ion source.</p>	<p>The '056 patent teaches the electrospray ionization technique, describing how the sample to be ionized is dissolved in a solvent, which is displaced through the capillary of the apparatus into a "region of high pressure and electrical field" wherein the liquid emerging becomes "charged" and the solvent begins to evaporate into charged droplets, which are directed into the mass spectrometer analyzer. See '056 patent at</p>	

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		2:53- 3:62.	
Claim 33, depends from claim 31 The composition of matter of claim 31 in which said smallest value of charge state number is not less than seven.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 33 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 33 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 35, depends from claim 31 The composition of matter of claim 31 in which all molecules of at least one of said distinct polyatomic parent molecular species have the same chemical formula.	Figures 7-9 show the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. Each species of PEG comprises molecules that have the same chemical formula. See Wong at 548		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 35 of the '726 patent including forming the compositions from compounds having the same chemical formula.
Claim 43 A composition of matter comprising			
one or more populations of multiply charged polyatomic ions generated from a sample comprising one or more distinct polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions generated from samples of PEG. See Wong at 548.		Each element of claim 43 of the '726 patent is found in or rendered obvious by Wong. Claim 43 of the '726 patent

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the number of charges on each ion defining the ion's charge state number, each of said populations of multiply charged polyatomic ions comprising ions formed from one of said one or more distinct polyatomic parent molecular species, at least one of said populations of ions comprising a plurality of sub-populations of ions, all the ions in each sub-population having the same charge state number,	Figures 7-9 show that the number of charges on each ion defines the ion's charge state number and show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. See Wong at 548.		differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a <i>prima facie</i> case of obviousness exists and the range of charges in claim 43 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
said at least one of said populations comprising one such sub-population for each possible value of charge state number beginning with a smallest value not less than three and extending to a largest value not less than five,	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Including the "calculation" and "determination" of the molecular weight from the values of mass/charge (m/z)
said composition of matter being useful in the determination of a value of molecular weight for one or more of said distinct polyatomic parent molecular species, said determination of molecular weight being achieved by means of a mass analysis of ions from said one or more populations of ions and a calculation of the molecular weight values of said one or more polyatomic parent molecular species from the values of mass/charge (m/z) obtained by said mass analysis for the ions in said one or more populations of polyatomic ions.	Wong discloses the mass scale and relationship between mass/molecular weight and m/z ratio. See Wong at 547. One skilled in the art at the time of the invention would have understood the relationship between mass/molecular weight and m/z ratio and could have performed the calculations with the m/z values.		step recited in claim 43 of the '726 patent is not only obvious, but also does not render the otherwise invalid claim patentable. See, e.g., <i>Parker v. Flook</i> , 47 U.S. 548, 98 S.Ct. 2522 (1978).
Claim 45, depends from claim 43			
The composition of matter of claim 43	Wong discloses that the ions		Claim 45 of the '726 patent

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in which said smallest value of charge state number is not less than seven and said largest value of charge state number is not less than ten.	generated may have at least three charges and may have “up to at least twenty-three” charges. Wong at 548, Abstract, Figure 6 and 11.		differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a <i>prima facie</i> case of obviousness exists and the range of charges in claim 45 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 46, depends from claim 43			
The composition of matter of claim 43 in which all molecules of any particular one of said distinct polyatomic parent molecular species have substantially the same molecular weight.	Wong teaches that future experiments will use “relatively pure species of known molecular weight.” Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 46 of the '726 patent including forming the compositions from compounds having substantially the same molecular weight.
Claim 47, depends from claim 43			
The composition of matter of claim 43 in which at least one of said distinct polyatomic parent molecular species is selected from a class of compounds known as biopolymers.		The '056 patent teaches “the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)” and that “[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry.” See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application of electrospray ionization methods to “biopolymers” to produce the compositions of claim 47 of the '726 patent.

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Claim 48, depends from 43 The composition of matter of claim 43 in which at least one of said distinct polyatomic parent molecular species is selected from the group comprising proteins, peptides, polypeptides, carbohydrates, oligonucleotides and glycoproteins.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application of electrospray ionization methods to make the compositions from "proteins, peptides, polypeptides, carbohydrates, oligonucleotides and glycoproteins" according to claim 48 of the '726 patent.
Claim 49, depends from 43 The composition of matter of claim 43 in which at lease [sic] one of said distinct polyatomic parent molecular species is not selected from the group of synthetic polymers having less than four different distinct elemental constituent species, said group comprising poly (ethylene glycol)s.	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 49 of the '726 patent including excluding compounds like polyethylene glycols.
Claim 50, depends from 43 The composition of matter of claim 43 in which at least one of said distinct polyatomic parent molecular species has a molecular weight not less than 5000.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the '056 patent to disclose the application of electrospray methods to a "distinct polyatomic parent molecular species [that] has a molecular weight not less than about 5000" to produce the composition of claim 50 of the '726 patent.

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
Claim 51			
The composition of matter comprising one or more populations of multiply charged polyatomic ions generated from a sample comprising one or more distinct polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions generated from samples of PEG. See Wong at 548.		Each element of claim 51 of the '726 patent is found in or rendered obvious by Wong.
the number of charges on each ion defining the ion's charge state number, each of said populations comprising ions formed from one of said one or more distinct polyatomic parent molecular species, at least one of said populations of multiply charged polyatomic ions comprising a plurality of sub-populations of ions, all the ions in each sub-population having the same charge state number,	Figures 7-9 show that the number of charges on each ion defines the ion's charge state number and show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. See Wong at 548.		Claim 51 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 51 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
said same charge state number differing from the charge state numbers of the ion in the other sub-populations of said population, said charge state number having a value of at least five for all the ions in said at least one of said populations of multiply charged polyatomic ions,	Figures 7-9 show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number, which differs from the charge state numbers of the other subpopulations. See Wong at 548. Wong further discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Including the "calculation" and "determining" of the molecular weight from the values of mass/charge (m/z) step recited in claim 51 of the '726 patent is not only obvious, but also does not render the otherwise invalid claim patentable. See, e.g., <i>Parker v. Flook</i> , 47 U.S.

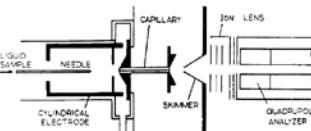
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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
said composition of matter being useful for determining the molecular weight of one or more of said distinct polyatomic parent molecular species, said determination of the molecular weight being achieved by a mass analysis of the ions in said one or more populations of multiply charged polyatomic ions together with a calculation of the said molecular weight of said one or more polyatomic parent molecular species from the values of mass/charge (m/z) obtained by mass analysis of ions in said one or more populations of multiply charged polyatomic ions.	Wong discloses the mass scale and relationship between mass/molecular weight and m/z ratio. See Wong at 547. One skilled in the art at the time of the invention would have understood the relationship between mass/molecular weight and m/z ratio and could have performed the calculations with the m/z values.		548, 98 S.Ct. 2522 (1978).
Claim 52, depends from claim 51			
The composition of matter of claim 51 in which every ion in said at least one of said populations of multiply charged polyatomic ions has a charge state number not less than seven.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 52 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 52 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 57			
A composition of matter comprising			

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
one or more distinct populations of multiply charged polyatomic ions generated from a sample comprising one or more distinct polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions that are generated from a sample of PEG. See Wong at 548.		Each element of claim 57 of the '726 patent is found in or rendered obvious by Wong either alone or in view of the '056 patent.
the number of charges on each ion defining the ion's charge state number, each of said multiply charged polyatomic ions in any one of said one or more distinct populations having been formed from one of said distinct polyatomic parent molecular species in said sample, at least one of said distinct populations of multiply charged polyatomic ions comprising a plurality of sub-populations of ions, all the ions in each sub-population of said plurality of sub-populations having the same charge state number,	Figures 7-9 show that the number of charges on each ion defines the ion's charge state number and show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. See Wong at 548.		Claim 57 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 57 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
said same charge state number differing from the charge state numbers of the ions in the other sub-populations of said plurality of sub-populations, said plurality of sub-populations comprising one such sub-population for each possible value of charge state number beginning with a smallest value not less than three and extending to a largest value not less than five,	Figures 7-9 show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number, which differs from the charge state numbers of the other subpopulations. See Wong at 548. Wong further discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Furthermore, the added electrospray ionization process steps were known in the electrospray mass spectrometry art as exemplified by the disclosure of the '056 patent. Including the "the property that the molecular weight of each of

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
<p>said composition of matter being formed by: dispersing a solution containing said polyatomic parent molecular species into a bath gas as charged droplets, said dispersing taking place in the presence of an electric field; allowing the solvent of said solution to evaporate from said charged droplets until at least some molecules of said distinct polyatomic parent molecular species become dispersed in said bath gas as said multiply charged polyatomic ions;</p>	<p>Wong discloses an electrospray ionization mass spectrometry procedure that anticipates these “dispersing” and “evaporating” procedural elements of performing the electrospray ionization. See Wong at Fig. 1 and 546.</p>  <p>Figure 1. Schematic representation of mass spectrometer with an electrospray ion source.</p>	<p>The '056 patent teaches the electrospray ionization technique, describing how the sample to be ionized is dissolved in a solvent, which is displaced through the capillary of the apparatus into a “region of high pressure and electrical field” wherein the liquid emerging becomes “charged” and the solvent begins to evaporate into charged droplets, which are directed into the mass spectrometer analyzer. See '056 patent at 2:53- 3:62.</p>	<p>said distinct polyatomic parent molecular species in said sample can be calculated” step in claim 57 of the '726 patent is not only obvious, but also does not render the otherwise invalid claim patentable. See, e.g., <i>Parker v. Flook</i>, 47 U.S. 548, 98 S.Ct. 2522 (1978).</p>
<p>said composition of matter having the property that the molecular weight of each of said distinct polyatomic parent molecular species in said sample can be calculated from the mass/charge (m/z) values of the multiply charged polyatomic ions produced from that species.</p>	<p>Wong discloses the mass scale and relationship between mass/molecular weight and m/z ratio. See Wong at 547. One skilled in the art at the time of the invention would have understood the relationship between mass/molecular weight and m/z ratio and could have performed the calculations with the m/z values.</p>		
Claim 59, depends from claim 51			
<p>The composition of matter of claim 51 in which said smallest value of charge state number is not less than seven and said largest value is not less than ten.</p>	<p>Wong discloses that the ions generated may have at least three charges and may have “up to at least twenty-three” charges. Wong at 548, Abstract, Figure 6 and 11.</p>		<p>Claim 59 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 59 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in</p>

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			Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 60, depends from claim 51 The composition of matter of claim 51 in which all molecules of any particular one of said distinct polyatomic parent molecular species have substantially the same molecular weight.	Wong teaches that future experiments will use “relatively pure species of known molecular weight.” Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 60 of the '726 patent including forming the compositions from compounds having substantially the same molecular weight.
Claim 61, depends from claim 51 The composition of matter of claim 51 in which at least one of said distinct polyatomic parent molecular species is selected from the class of compounds known as biopolymers.		The '056 patent teaches “the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)” and that “[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry.” See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application of electrospray ionization methods to “biopolymers” to produce the compositions of claim 61 of the '726 patent.
Claim 62, depends from claim 51 The composition of matter of claim 51 in which at least one of said distinct polyatomic parent molecular species is selected from the group comprising proteins, peptides, polypeptides, carbohydrates, oligonucleotides and glycoproteins.		The '056 patent teaches “the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)” and that “[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application of electrospray ionization methods to make the compositions from “proteins, peptides, polypeptides,

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
		frequently encountered in biochemistry." See '056 Patent at 3:7-14.	carbohydrates, oligonucleotides and glycoproteins" according to claim 62 of the '726 patent.
Claim 63, depends from claim 51			
The composition of matter of claim 51 in which at least one of said distinct polyatomic parent molecular species is not selected from the group of synthetic polymers comprising less than four different constituent elemental species, said group comprising poly (ethylene glycol)s.	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 63 of the '726 patent including excluding compounds like polyethylene glycols
Claim 68			
A composition of matter that by mass analysis of its component ions is found to comprise one or more distinct populations of multiply charged polyatomic ions,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions. See Wong at 548.		Each element of claim 68 of the '726 patent is found in or rendered obvious by Wong either alone or in view of the '056 patent. Claim 68 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 68 of the '726 patent is therefore not

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
<p>the number of charges on each ion defining the ion's charge state number, each of said distinct populations of multiply charged polyatomic ions comprising ions having been formed from a polyatomic parent molecular species, at least one of said distinct populations of multiply charged polyatomic ions comprising a plurality of sub-populations of ions, all the ions in each sub-population having the same charge state number, said charge state number differing from the charge state number of the other sub-populations in said plurality of sub-populations,</p>	<p>Figures 7-9 show that the number of charges on each ion defines the ion's charge state number and show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number where the sub-populations differ in charge state number (the bands on the mass spec have different charges). See Wong at 548.</p>		<p>patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i>, 541 F.2d at 267; <i>In re Peterson</i>, 65 U.S.P.Q.2d at 1382.</p> <p>Furthermore, the added electrospray ionization process steps were known in the electrospray mass spectrometry art as exemplified by the disclosure of the '056 patent.</p>
<p>said plurality of sub-populations comprising one such sub-population for each possible value of charge state number beginning with a smallest value not less than three and extending to a largest value not less than five,</p>	<p>Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.</p>		
<p>said composition of matter being formed by: dispersing a solution containing one or more polyatomic molecular species into a bath gas as charged droplets, said dispersing taking place in the presence of an electric field; allowing the solvent of said solution to evaporate from said charged droplets until at least some molecules of said polyatomic parent molecular species become dispersed in said bath gas as said multiply charged polyatomic ions;</p>	<p>Wong discloses an electrospray ionization mass spectrometry procedure that anticipates these "dispersing" and "evaporating" procedural elements of performing the electrospray ionization, including describing the process wherein ions "emerge at the exit end in a supersonic free jet of bath gas expanding into the first stage of the vacuum system. . . . A core portion of the free jet passes through the skimmer and delivers the ions to the quadrupole mass analyzer." See</p>	<p>The '056 patent further describes the electrospray ionization technique, describing how the sample to be ionized is dissolved in a solvent, which is displaced through the capillary of the apparatus into a "region of high pressure and electrical field" wherein the liquid emerging becomes "charged" and the solvent begins to evaporate into charged droplets, which are directed</p>	

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
said mass analysis being carried out on a portion of said multiply charged polyatomic ions in said bath gas that is introduced into a vacuum system containing a mass analyzer.	<p>Wong at Fig. 1 and 546.</p> <p>Figure 1. Schematic representation of mass spectrometer with an electrospray ion source.</p>	into the mass spectrometer analyzer. The '056 patent indicates the ESI technique uses a vacuum system. See '056 patent at 2:53- 3:62.	
Claim 70, depends from claim 68			
The composition of matter of claim 68 in which said smallest value of charge state number is not less than seven and said largest value is not less than ten.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 70 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 70 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 72, depends from claim 68			
The composition of matter of claim 68 in which at least one of said distinct polyatomic parent molecular species in said solution is selected from a class of compounds known as biopolymers.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application electrospray ionization methods to "biopolymers" to produce the compositions of claim 72 of the '726 patent.

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Claim 73, depends from claim 68 The composition of matter of claim 68 in which at least one of said distinct polyatomic parent molecular species in said solution has a molecular weight not less than 5000.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the '056 patent to disclose the application of electrospray methods to a "distinct polyatomic parent molecular species [that] has a molecular weight not less than about 5000" to produce the composition of claim 73 of the '726 patent.
Claim 74 A composition of matter derived from a sample comprising			
one or more distinct polyatomic parent molecular species,	Figures 7-9 exemplify compositions comprising a distinct polyatomic parent molecular species. See Wong at 548.		Each element of claim 74 of the '726 patent is found in or rendered obvious by Wong.
all molecules of each of said distinct polyatomic parent molecular species having substantially the same molecular weight and chemical identity,	Each species of PEG comprises molecules that have the same chain length, molecular weight, and chemical formula. See Wong at 548. Wong teaches that future experiments will use "relatively pure species of known molecular weight." Wong at 550.		Claim 74 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 74 of

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
said composition of matter comprising one or more distinct populations of polyatomic ions, at least one of said distinct populations of ions comprising multiply charged ions formed from one of said one or more distinct polyatomic parent molecular species in said sample, the number of charges on each ion defining the charge state number of that ion,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions. See Wong at 548. Figures 7-9 also show that the number of charges on each ion defines the ion's charge state number and show that the population of PEG ions comprises a plurality of subpopulations. See Wong at 548.		the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
each of said populations of multiply charged ions having the property that when its ions are mass analyzed they give rise to a mass spectrum comprising a multiplicity of peaks, said multiplicity of peaks comprising at least one coherent sequence of peaks, the ions of each peak in said coherent sequence having the same charge state number, said charge state number being greater than [sic] unity and differing by one unit from the charge state numbers of the ions of each immediately adjacent peak in said coherent sequence,	Figures 5-9 show that each population of PEG ions give rise to mass spectra comprising a multiplicity of peaks with at least one coherent sequence of peaks. See Wong at 548. Figures 7-9 show that the population of PEG ions comprises a plurality of subpopulations, the ions in each sub-population having the same charge state number. See <i>id.</i> And Figures 5-9 show that the number of charges differs from the charge state numbers of the ions of each immediately adjacent peak in said coherent sequence. For example, Figure 6-8 show the mass spectra showing triply charged species in addition to bands with 3-6 Na ⁺ . See <i>id.</i>		
said coherent sequence of peaks comprising one peak for each different value of charge state number beginning with a smallest value not less than three and extending to a largest value not less than five.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		

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5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
Claim 76, depends from claim 74 The composition of matter of claim 74 in which at least one of said distinct polyatomic parent molecular species is selected from a class of compounds known as biopolymers.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to teach the application electrospray ionization methods to "biopolymers" to produce the compositions of claim 76 of the '726 patent.
Claim 77, depends from claim 74 The composition of matter of claim 74 in which at least one of said distinct polyatomic parent molecular species is not selected from the group comprising poly (ethylene glycol)s.	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		One of ordinary skill in the art would understand the disclosure of Wong to render obvious the elements of claim 77 of the '726 patent including excluding compounds like polyethylene glycols
Claim 78, depends from claim 74 The composition of matter of claim 74 in which at least one of said distinct polyatomic parent molecular species has a molecular weight not less than about 5000.		The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)." See '056 Patent at 3:7-14.	One of ordinary skill in the art would understand the disclosure of the '056 patent to disclose the application of electrospray methods to a "distinct polyatomic parent molecular species [that] has a molecular weight not less than about 5000" to produce the compositions of claim 78 of the '726 patent.
Claim 101 A composition of matter comprising one or more populations of	Wong indicates that when the composition is generated, a solution		Each element of claim 101 of the '726 patent is found in or

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polyatomic gaseous ions, at least one of said populations comprising multiply charged ions formed from the same chemically distinct parent species of polyatomic neutral molecules,	containing the PEG molecules is dispersed into a fine spray of charged droplets, and forms a gas, before it is mass analyzed. See Wong at 546. Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions. See Wong at 548.		rendered obvious by Wong. Claim 101 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 101 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
said same chemically distinct species of polyatomic neutral molecules not including synthetic polymers such as poly (ethylene glycol)s,	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		
all of said multiply charged ions, formed from said same chemically distinct species of polyatomic neutral molecules, having at least three charges.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		
Claim 103, depends from claim 101			
A composition of matter according to claim 101 in which all of said multiply charged polyatomic ions, formed from, said chemically distinct species of polyatomic neutral molecules, have at least seven charges.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 103 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 103 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 104			

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A composition of matter comprising one or more populations of polyatomic gaseous ions, at least one of said populations of polyatomic ions comprising multiply charged ions formed from the same chemically distinct parent species of polyatomic neutral molecules,	Wong indicates that when the composition is generated, a solution containing the PEG molecules is dispersed into a fine spray of charged droplets, and forms a gas, before it is mass analyzed. See Wong at 546. Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions. See Wong at 548.		Each element of claim 104 of the '726 patent is found in or rendered obvious by Wong. Claim 104 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 104 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
said chemically distinct parent species of polyatomic molecules not being selected from the class comprising oligomers of synthetic polymers such as poly (ethylene glycol)s,	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		
the number of charges on each ion defining the charge state number of that ion, said at least one of said populations of polyatomic multiply charged ions comprising a plurality of sub-populations,	Figures 7-9 show that the number of charges on each ion defines the ion's charge state number and show that the population of ions comprises a plurality of subpopulations. See Wong at 548.		
one such sub-population for each possible integral value of charge state number beginning with a smallest value not less than three and extending to a largest value not less than five.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		
Claim 105, depends from claim 104			
A composition of matter according to claim 104 in which said smallest value of charge state number is not less than five and said largest value is not less than seven.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 105 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 105

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			of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 106, depends from claim 104			
A composition of matter according to claim 104 in which said smallest value of charge state number is not less than seven and said largest value is not less than ten.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 106 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 106 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 107			
A composition of matter comprising one or more populations of polyatomic gaseous ions,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions. See Wong at 548. Wong indicates that when the composition is generated, a solution containing the PEG molecules is dispersed into a fine spray of charged droplets, and forms a gas, before it is mass analyzed. See Wong at 546.		Each element of claim 107 of the '726 patent is found in or rendered obvious by Wong either alone or in view of the disclosure of the '056 patent.
all of the ions in at least one of said populations comprising multiply charged polyatomic ions having a net	Wong discloses that the ions generated may have at least three charges and may have "up to at least		Claim 107 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of

INVALIDITY CLAIM CHART C
U.S. PATENT NO. 5,686,726 (Wong and '056 Patent)

5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
charge equal to or greater than three elementary charges and a composition characterized by the empirical chemical formula (Cc Hh Nn Oo Ss Pp Tt Uu Vv Ww Yy) wherein upper case letters C, H, N, O, S, P stand respectively for the elements Carbon, Hydrogen, Nitrogen, Oxygen, Sulfur, Phosphorous and T, U, V, W, Y each stand for other elements in the Periodic Table, the lower case subscript letters associated with each of said upper case letters symbolizing an integer equal to the number of atoms of the corresponding element in said ion, all the ions with three or more charges in at least one of said one or more populations of ions having compositions such that the number of different subscripts c, h, o, n, p, s, t, u, v, w, y having values greater than zero is five or less,	twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.	The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	obviousness exists and the range of charges in claim 107 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382. Additionally, claim 107 recites the elements present in the composition of matter according to an empirical chemical formula, "Cc Hh Nn Oo Ss Pp Tt Uu Vv Ww Yy", and the "number of different subscripts c, h, o, n, p, s, t, u, v, w, y having values greater than zero is five or less." It would have been obvious in view of the '056 patent to apply electrospray ionization to the analysis of biomolecules because one skilled in the art would have recognized that at least one class of molecules frequently encountered in biochemistry, nucleic acids can include (by virtue of their constituent nucleotides) carbon, hydrogen, oxygen, nitrogen, and phosphorus.
said ions not being derived from a member of the class of synthetic polymers that include poly (ethylene glycol)s.	Wong teaches that future experiments will use "relatively pure species of known molecular weight" instead of polyethylene glycols. Wong at 550.		
Claim 108, depends from claim 107			
A composition of matter as in claim 107 in which all the ions in said at least one population of multiply	Wong discloses that the ions generated may have at least three charges and may have "up to at least		Claim 108 of the '726 patent differs from Wong in the range of charge states recited.

INVALIDITY CLAIM CHART C
U.S. PATENT NO. 5,686,726 (Wong and '056 Patent)

5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
charged polyatomic ions have at least five charges.	twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 108 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 109, depends from claim 107			
A composition of matter as in claim 107 in which all the ions in said at least one population of multiply charged polyatomic ions have at least seven charges.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 109 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 109 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 110			
A composition of matter comprising one or more populations of gaseous ions,	Figures 7-9 exemplify compositions comprising a population of multiply charged polyatomic ions. See Wong at 548. Wong indicates that when the composition is generated, a solution containing the PEG molecules is dispersed into a fine spray of charged		Each element of claim 110 of the '726 patent is found in or rendered obvious by Wong either alone or in view of the disclosure of the '056 patent. Claim 110 of the '726 patent

INVALIDITY CLAIM CHART C
U.S. PATENT NO. 5,686,726 (Wong and '056 Patent)

5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
	droplets, and forms a gas, before it is mass analyzed. See Wong at 546.		differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a <i>prima facie</i> case of obviousness exists and the range of charges in claim 110 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
at least one of said populations comprising multiply charged polyatomic ions having a net charge equal to or greater than three elementary charges and a composition characterized by the empirical chemical formula (Cc Hh Nn Oo Ss Pp Tt Uu Vv Ww Yy) wherein upper case letters C, H, N, O, S, P stand respectively for the elements Carbon, Hydrogen, Nitrogen, Oxygen, Sulfur, Phosphorous and T, U, V, W, Y each stand for other elements in the Periodic Table, the lower case letters symbolizing an integer equal to the number of atoms of the corresponding element in said ion, all the ions with three or more charges in at least one of said one or more populations of polyatomic ions having compositions such that the number of different subscripts c, h, n, o, p, s, t, u, v, w, y having values greater than zero is greater than five.	Wong discloses that the ions generated may have at least three charges and may have "up to at least twenty-three" charges. Wong at 548, Abstract, Figure 6 and 11.	The '056 patent teaches "the electrospray technique produces ions from solutes of very high molecular weights (e.g. 500,000)" and that "[i]t is therefore well suited for the ionisation of thermally unstable molecules, such as those frequently encountered in biochemistry." See '056 Patent at 3:7-14.	Additionally, claim 110 recites the elements present in the composition of matter according to an empirical chemical formula, "Cc Hh Nn Oo Ss Pp Tt Uu Vv Ww Yy", and the "number of different subscripts c, h, o, n, p, s, t, u, v, w, y having values greater than zero is five or less." It would have been obvious in view of the '056 patent to apply electrospray ionization to the analysis of biomolecules because one skilled in the art would have recognized that at least one class of molecules frequently encountered in biochemistry, nucleic acids can include (by virtue of their constituent nucleotides) carbon, hydrogen, oxygen, nitrogen, and phosphorus.

INVALIDITY CLAIM CHART C
U.S. PATENT NO. 5,686,726 (Wong and '056 Patent)

5,686,726	Wong	The '056 Patent	Basis of Invalidity Contention
Claim 111, depends from claim 110 A composition of matter as in claim 110 in which all the ions in said at least one population of multiply charged polyatomic ions have at least five charges and a composition such that the number of different subscripts c, h, n, o, p, s, t, u, v, w, y having values greater than zero is greater than five.	Wong discloses that the ions generated may have at least three charges and may have “up to at least twenty-three” charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 111 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 111 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.
Claim 112, depends from 110 A composition of matter as in claim 110 in which all the ions in said at least one population of multiply charged polyatomic ions have at least seven charges and a composition such that the number of different subscripts c, h, n, o, p, s, t, u, v, w having values greater than zero is greater than five.	Wong discloses that the ions generated may have at least three charges and may have “up to at least twenty-three” charges. Wong at 548, Abstract, Figure 6 and 11.		Claim 112 of the '726 patent differs from Wong in the range of charge states recited. Where the range recited in a claim overlaps or lies within the prior art, a prima facie case of obviousness exists and the range of charges in claim 112 of the '726 patent is therefore not patentably distinct from the range of charges disclosed in Wong. See <i>In re Wertheim</i> , 541 F.2d at 267; <i>In re Peterson</i> , 65 U.S.P.Q.2d at 1382.